

**§ 73.683**

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(Secs. 4, 5, 303, 48 Stat., as amended, 1066, 1068, 1082 (47 U.S.C. 154, 155, 303))

[28 FR 13660, Dec. 14, 1963]

EDITORIAL NOTE: For FEDERAL REGISTER citations affecting § 73.682, see the List of CFR Sections Affected appearing in the Finding Aids section of this volume.

**§ 73.683 Field strength contours.**

(a) In the authorization of TV stations, two field strength contours are considered. These are specified as Grade A and Grade B and indicate the approximate extent of coverage over average terrain in the absence of interference from other television stations. Under actual conditions, the true coverage may vary greatly from these estimates because the terrain over any specific path is expected to be different from the average terrain on which the field strength charts were based. The required field strength,  $F$  (50,50), in dB above one micro-volt per meter (dBu) for the Grade A and Grade B contours are as follows:

|                      | Grade A<br>(dBu) | Grade B<br>(dBu) |
|----------------------|------------------|------------------|
| Channels 2–6 .....   | 68               | 47               |
| Channels 7–13 .....  | 71               | 56               |
| Channels 14–69 ..... | 74               | 64               |

(b) It should be realized that the  $F$  (50,50) curves when used for Channels 14–69 are not based on measured data at distances beyond about 48.3 kilometers (30 miles). Theory would indicate that the field strengths for Channels 14–69 should decrease more rapidly with distance beyond the horizon than for Channels 2–6, and modification of the curves for Channels 14–69 may be expected as a result of measurements to be made at a later date. For these reasons, the curves should be used with appreciation of their limitations in estimating levels of field strength. Further, the actual extent of service will

usually be less than indicated by these estimates due to interference from other stations. Because of these factors, the predicted field strength contours give no assurance of service to any specific percentage of receiver locations within the distances indicated. In licensing proceedings these variations will not be considered.

(c) The field strength contours will be considered for the following purposes only:

(1) In the estimation of coverage resulting from the selection of a particular transmitter site by an applicant for a TV station.

(2) In connection with problems of coverage arising out of application of § 73.3555.

(3) In determining compliance with § 73.685(a) concerning the minimum field strength to be provided over the principal community to be served.

[44 FR 36039, June 20, 1979, as amended at 47 FR 35990, Aug. 18, 1982; 50 FR 23699, June 5, 1985; 50 FR 32416, Aug. 12, 1985]

**§ 73.684 Prediction of coverage.**

(a) All predictions of coverage made pursuant to this section shall be made without regard to interference and shall be made only on the basis of estimated field strengths. The peak power of the visual signal is used in making predictions of coverage.

(b) Predictions of coverage shall be made only for the same purposes as relate to the use of field strength contours as specified in § 73.683(c).

(c) In predicting the distance to the field strength contours, the  $F$  (50,50) field strength charts (Figures 9 and 10 of § 73.699) shall be used. If the 50% field strength is defined as that value exceeded for 50% of the time, these  $F$  (50,50) charts give the estimated 50% field strengths exceeded at 50% of the locations in dB above 1  $\mu$ V/m. The charts are based on an effective power of 1 kW radiated from a half-wave dipole in free space, which produces an unattenuated field strength at 1.61 kilometers (1 mile) of about 103 dB above 1  $\mu$ V/m. To use the charts to predict the distance to a given contour, the following procedure is used: Convert the effective radiated power in kilowatts for the appropriate azimuth into decibel value referenced to 1 kW (dBu).